

# CHAPTER 4

## Cumulative Effects and Other Required Topics

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This Chapter summarizes the findings with respect to cumulative impacts, growth-inducing impacts, significant, unavoidable environmental impacts, and significant irreversible environmental changes that could result from implementing the proposed Scott River Watershed-wide Permitting Program (Program).

### 4.1 Cumulative Impacts

A cumulative impact is created when “two or more individual effects, when considered together, are considerable or compound or increase other environmental impacts” (CEQA *Guidelines*, § 15355). The “individual effects” could be “changes resulting from a single project or a number of separate projects” (CEQA *Guidelines*, § 15355(a)). “The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely-related, past, present and reasonably foreseeable probable future projects” (CEQA *Guidelines*, § 15355(b)).

The purpose of this cumulative impacts analysis is to disclose the potential for significant cumulative impacts that could result from the Program in combination with other closely-related, past, present, and reasonably foreseeable probable future projects or programs.

CEQA *Guidelines*, § 15130 requires that environmental impact reports (EIR) discuss the cumulative impacts of a project or program when its incremental effect is “cumulatively considerable,” meaning that the project’s incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects. The discussion of cumulative impacts should include:

- Either: (1) a list of past, present, and probable future projects producing related or cumulative impacts; or (2) a summary of projections contained in an adopted general plan or similar document, or in an adopted or certified environmental document, that described or evaluated conditions contributing to a cumulative impact. This Draft EIR uses a listing approach;
- A discussion of the geographic scope of the area affected by the cumulative impact;
- A summary of expected environmental effects to be produced by these projects;
- An assessment of whether such effects are significant, and if they are, whether the project’s contribution to such significant impacts is cumulatively considerable; and

- Reasonable, feasible options for mitigating or avoiding a project's contribution to any significant cumulative effects.

### 4.1.1. Approach to Analysis

As described in Chapter 1, Introduction, a primary objective of the Program is to facilitate, through voluntary participation in the Program, compliance with Fish and Game Code, § 1600 *et seq.* and/or the California Endangered Species Act (CESA) by the Siskiyou Resource Conservation District (SQRC), Agricultural Operators, and California Department of Water Resources (DWR) when conducting Covered Activities, many of which are ongoing, historic activities. Because the Program is a regulatory program, this Chapter examines similar past, present, and reasonably foreseeable probable future government regulatory initiatives that have affected, are presently affecting, and/or will likely affect in the future activities similar to the activities the Program covers and/or their related impacts, as described in this Draft EIR. This Chapter also examines similar past, present, and reasonably foreseeable probable future activities similar to the activities the Program covers, including restoration activities, and their related impacts regardless of whether they are subject to any regulatory initiatives.

An impact analysis follows this discussion to evaluate whether the incremental impacts of the Program and the activities it covers when added to the potential impacts of the regulatory initiatives and activities similar to the Covered Activities that could cause related impacts, as described above, will be cumulatively considerable.

### 4.1.2 Past, Present, and Reasonably Foreseeable Future Regulatory Initiatives

This section provides a description of the existing and reasonably foreseeable regulatory environment that could affect activities in the Program Area similar to the Covered Activities. Recent and proposed regulatory plans, policies, and programs (collectively, initiatives) include those that relate or respond to the listing of coho salmon (*Oncorhynchus kisutch*) as a threatened species under CESA and the Endangered Species Act (ESA);<sup>1</sup> CDFG's Lake and Streambed Alteration Programs; the 1994 Northwest Forest Plan (NWFP); the Scott River Total Maximum Daily Loads (TMDL) Action Plan; the Water Quality Control Plan for the North Coast Region (Basin Plan) and proposed amendment of the Basin Plan; Pacific Fishery Management Council's (PFMC) Salmon Fishery Management Plan; and the Klamath Fishery Management Council's (KFMC) long-term plan for the management of in-river and ocean harvest of Klamath Basin anadromous fish. These initiatives have been enacted to reduce impacts to protected species, riparian and aquatic habitats, water quality, and overall watershed health, and ultimately result in a net-benefit to these resources. In the Impact Analysis section of this Chapter, we examine whether these regulatory actions could combine with the Program's impact on the resources described in Chapters 3.1 to 3.7 in this Draft EIR to produce a cumulatively considerable impact.

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<sup>1</sup> Chapter 3.3, Biological Resources: Fisheries and Aquatic Habitat, includes an overview of CESA and ESA.

## Regulation of Special-Status Species

### ***Federal Listing of Southern Oregon/Northern California Coho Salmon***

The National Marine Fisheries Service (NMFS) is responsible for conducting ESA status reviews and making listing determinations for anadromous fishes on the West Coast, including Pacific salmon and steelhead. In 1997, NMFS issued a final determination that the Southern Oregon/Northern California Coast Evolutionarily Significant Unit (ESU) of coho salmon is a “species” under ESA, and listed coho salmon as a threatened species under ESA (NMFS, 1997). Its threatened status was reaffirmed in 2005 (NMFS, 2005). The ESU includes all naturally-spawning populations of coho salmon in coastal streams between Cape Blanco, Oregon, and Punta Gorda, California, as well as three artificial propagation programs: the Cole Rivers Hatchery (ODFW stock #52), Trinity River Hatchery, and Iron Gate Hatchery coho salmon hatchery programs. A federal recovery plan which provides prioritized actions for restoring coho salmon in the Klamath River basin was recently completed (NMFS, 2007).

### ***State Listing of Coho Salmon (San Francisco to the Oregon Border)***

In 2004, the California Fish and Game Commission (Commission) approved new protections for coho salmon by adding coho salmon between San Francisco and Punta Gorda (Humboldt County) to the list of endangered species under CESA, and by adding coho salmon between Punta Gorda and the Oregon border to the list of threatened species under CESA. The Commission’s decision to list coho salmon under CESA concluded a lengthy process that began in August 2002, when it found that populations of coho salmon warranted new protections (CDFG, 2004a). The effective date of listing for coho salmon in the Program Area was March 30, 2005 (CDFG, 2006).

### ***Federal Land Management Planning Related to Special-Status Species***

#### **Northwest Forest Plan**

The mission of the NWFP is to adopt coordinated management direction for the lands administered by the U.S. Forest Service (USFS) and the Bureau of Land Management (BLM) and to adopt complementary approaches by other federal agencies within the range of the northern spotted owl.<sup>2</sup> This plan was the result of a focused federal effort to respond to timber management conflicts on old growth forests of the Pacific Northwest within the range of the northern spotted owl and other listed species. In 1993, the Forest Ecosystem Management Assessment Team (FEMAT) convened to present and analyze alternatives for ecosystem management of these old-growth forests. Within a year, FEMAT published a report that presented 10 forest management alternatives. Of these 10 options, former President Clinton selected Option 9 as the course of action. An Environmental Impact Statement followed based on the FEMAT report and Option 9, which resulted in the approval of the currently implemented NWFP. The

<sup>2</sup> Eight federal agencies have developed an implementation and effectiveness monitoring program encompassing federal land managed by USFS, BLM, and the National Park Service in western Washington, Oregon, and northwest California. This program focuses on important regional scale questions about older forests, listed species (including Northern spotted owls and marbled murrelets), watershed health, federal agency relationships with Tribes, and changing socio-economic conditions in communities closely tied to federal lands. The Regional Monitoring program receives its own funding and is a separately managed interagency program.

NWFP covers 24.5 million acres in Oregon, Washington, and northern California that are managed by a variety of federal agencies.

In the Program Area, the NWFP applies to the Klamath National Forest (KNF) and Shasta-Trinity National Forest. The Land and Resource Management Plans (LRMP) of both National Forests reflect the requirements of the NWFP, and "...use active stewardship and participative [sic] management to provide for environmental health and community stability in a sustainable manner." Timber production within the Program Area and neighboring Shasta River watershed has been on the decline over the past several decades, both in the years leading up to the approval of the NWFP and following implementation (KNF, 1993).

### ***State and Federal Water Quality Plans and Policies***

#### **Water Quality Control Plan for the North Coast Region**

As described in Chapter 3.2, Geomorphology, Hydrology and Water Quality, the North Coast Regional Water Quality Control Board (NCRWQCB) is responsible for the protection of the beneficial uses of waters within Siskiyou County. NCRWQCB uses its planning, permitting, and enforcement authorities to meet this responsibility and has adopted the Water Quality Control Plan for the North Coast Region (Basin Plan) to implement plans, policies, and provisions for water quality management. The most recent version of the adopted Basin Plan was published by NCRWQCB in September, 2006 (NCRWQCB, 2006). The Basin Plan and relevant beneficial uses are discussed in Chapter 3.2, Geomorphology, Hydrology, and Water Quality.

#### **Stream and Wetlands System Protection Policy - Proposed Amendment to the North Coast Basin Plan**

NCRWQCB and the San Francisco Bay Regional Water Quality Control Board have been working to develop an amendment to the Basin Plans for the North Coast and San Francisco Bay Regions that will protect stream and wetlands systems, including measures to protect riparian areas and floodplains. This amendment, if approved, would be known as the Stream and Wetlands System Protection Policy (Policy) which would establish new beneficial uses and water quality objectives, and include an implementation plan to protect stream and wetland systems in the North Coast and San Francisco Bay Regions.<sup>3</sup> The goals of the proposed Policy are:

- to achieve water quality standards and protect beneficial uses of waters of the state;
- to protect drinking water through natural water quality enhancement and protection of groundwater recharge zones;
- to restore habitat and protect aquatic species and wildlife;
- to enhance flood protection through natural functions of stream and wetlands systems;
- to restore the associated recreational opportunities, green spaces, and neighborhood amenities that water resources provide;
- to protect property values and community welfare by protecting natural environments;

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<sup>3</sup> A single policy is being proposed for Basin Plan adoption to improve regulatory consistency.

- to encourage local watershed planning and support local oversight of water resources; and
- to improve Regional Water Board permitting and program efficiency.

The proposed Policy recognizes that it is necessary to protect and restore the physical characteristics of stream and wetlands systems—stream channels, wetlands, riparian areas, and floodplains, including their connectivity and natural hydrologic regimes, to achieve water quality standards and protect beneficial uses. The Policy, if approved, would serve as a model for the other RWQCBs and the state to protect water quality. The Policy would also promote regulatory efficiency by linking to existing relevant permit conditions and provisions in federal Clean Water Act (CWA) Section 401 water quality certifications, timber harvesting plans (THPs), waste discharge requirements (WDR), WDR waivers, and urban runoff National Pollutant Discharge Elimination System (NPDES) permits. The Policy would also promote general efficiency by linking to RWQCBs' monitoring programs (e.g., Surface Water Ambient Monitoring Program) and grants program.

The Policy would also provide incentives for local jurisdictions to develop watershed management plans that can be used by project applicants to offset impacts to stream and wetland functions when on-site avoidance of impacts is impossible. In this way the Policy would create a vehicle for working with local jurisdictions to develop effective implementation strategies consistent with local stakeholder interests. This Policy is currently undergoing public review.

### **Scott River TMDL Action Plan**

The U.S. Environmental Protection Agency added the Scott River to California's 303(d) impaired waters list in 1992 due to sediment and temperature levels in excess of water quality standards, as described in the CWA or in the Basin Plan. The beneficial uses impaired in the Scott River watershed by excessive sediment and elevated temperature are primarily those associated with the cold-water salmonid fishery (commercial and sport fishing; cold freshwater habitat; rare, threatened and endangered species; migration of aquatic organisms; spawning, reproduction, and/or early development of fish, and recreation (NCRWQCB, 2005). The *Staff Report for the Action Plan for the Scott River Watershed Sediment and Water Temperatures Total Maximum Daily Loads* was published in 2005 (NCRWQCB, 2005). In general, this document identifies and describes causes of impairment, recommended levels for water temperature and sediment concentration, and an implementation plan.

The goal of the Scott River TMDL Action Plan is to achieve the TMDLs, achieve sediment and temperature water quality objectives, and restore and protect the beneficial uses of water in the Scott River watershed (NCRWQCB, 2005). Specific implementation actions are necessary in order to attain the sediment and temperature TMDLs, achieve the sediment and temperature-related water quality standards, and protect the beneficial uses of water in the Scott River watershed. The voluntary implementation actions of this plan are designed to encourage and build upon ongoing, proactive restoration and enhancement efforts, and to comply with the state's *Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program*. Should any of the voluntary implementation actions fail to be implemented by the responsible party or should the voluntary implementation actions prove to be inadequate, the RWQCB would take appropriate permitting and/or enforcement actions (NCRWQCB, 2005). The implementation actions address sediment waste discharges, water temperature and vegetation by focusing on:

- roads at the private, county, and state levels;
- ground-disturbing activities;
- dredge mining;
- water use;
- flood control and bank stabilization;
- timber harvest;
- activities on USFS land;
- activities on U.S. Bureau of Land Management land;
- grazing; and
- cooperation with the SQRCD, Scott River Watershed Council (SRWC), NRCS, University of California Cooperative Extension (UCCE) and CDFG.

The Plan is geared toward using ongoing efforts and existing regulatory standards and enforcement tools more effectively than in the past, using available watershed-specific information and applicable science to inform those efforts (NCRWQCB, 2005).

#### **Regulation of the Pacific Salmon Fishery: the Pacific Fishery Management Council and the Klamath Fishery Management Council**

PFMC is one of eight regional fishery management councils established by the federal Magnuson Fishery Conservation and Management Act of 1976 for the purpose of managing fisheries three to 200 miles offshore of the U.S. coastline. PFMC is responsible for fisheries off the coasts of California, Oregon, and Washington.

Pacific coast salmon fisheries in PFMC-managed waters focus on Chinook or king salmon and coho or silver salmon. Small numbers of pink salmon are also harvested, especially in odd-numbered years. There are no directed fisheries for other salmon species such as sockeye, steelhead and chum in PFMC-managed waters.

PFMC's Salmon Fishery Management Plan (PFMC, 1999) describes the goals and methods for salmon management. Management tools such as season length, quotas, and bag limits vary depending on how many salmon are present. There are two central parts of the Plan: an annual goal for the number of spawners of the major salmon stocks ("spawner escapement goals"), and allocation of the harvest among different groups of fishers (commercial, recreational, tribal, various ports, ocean, and inland). PFMC must also comply with ESA and other federal laws.

Every year PFMC follows a pre-season process to develop recommendations for management of the ocean fisheries. Public involvement begins in late February when reports describing the previous season and estimating salmon abundance for the coming season are released. These reports are followed by a meeting early in March to propose season options. Public hearings on these options are held in late March or early April, and the final recommendations are adopted at a meeting in April. Recommendations are implemented by NMFS on May 1 (PFMC, 2007). In 2006 and 2007, the PFMC severely limited the allowable catch of salmon off the California and Oregon coasts, in order to protect the depleted Klamath stocks. For 2008, the PFMC took the

unprecedented action of completely closing the salmon fishing season off the California coast due to severely depressed Sacramento River stocks. While the intent of the restrictions is to rebuild salmon stocks, they have also had the consequence of impairing the commercial, recreational, and tribal salmon fisheries.

**The Klamath Fishery Management Council.** KFMC was an 11-member federal advisory committee that brought together commercial and recreational fishermen, Tribes, and state and federal agencies to work by consensus to manage harvests and ensure continued viable populations of anadromous fish in the Klamath Basin.

KFMC developed a long-term plan for the management of in-river and ocean harvest of Klamath Basin anadromous fish. Members included representatives from commercial and recreational ocean fisheries, the in-river sport fishing community, tribal fisheries, and agencies (CDFG, Oregon Department of Fish and Wildlife, National Marine Fisheries Service, and U.S. Department of the Interior) (KFMC, 1992).

Before the Klamath Act expired in 2006, the KFMC met three times each spring to review the past year's harvest of Chinook salmon, and to review predictions of Chinook salmon ocean abundance and harvests in the upcoming year developed by their Technical Advisory Team. KFMC then made specific recommendations to the agencies that regulate the harvest of Klamath Basin fish. These agencies included the PFMC, the Commission, Oregon Department of Fish and Wildlife, Yurok Tribal Fisheries, and Hoopa Tribal Fisheries. KFMC recommendations to PFMC were used to develop ocean salmon fishing seasons. PFMC then passed its recommended fishing seasons to the Department of Commerce, which has final authority in setting regulations for the ocean fishery (KFMC, 2007).

The Klamath Act expired on October 1, 2006 and was not reauthorized by Congress. The funding for the Klamath Fishery Management Council was eliminated and the charter was discontinued.

### 4.1.3 Activities Similar to Covered Activities

This Chapter examines similar past, present, and reasonably foreseeable probable future activities similar to the activities the Program covers, including restoration activities, and their related impacts regardless of whether they are subject to any regulatory initiatives. Such activities include those associated with agricultural operations and private development projects, among others, by individuals, CDFG, French Creek Watershed Advisory Group (on a voluntary basis), Natural Resources Conservation Service (NRCS), Klamath River Basin Fisheries Task Force, Department of Water Resources (DWR), Siskiyou County and Five Counties Salmon Conservation Program, SQRCD, SRWC, University of California Cooperative Extension (UCCE), and U.S. Fish and Wildlife Service (USFWS). These activities are examined here because the activities the Program covers and their potential impacts are closely related to those other activities. As a result, it is possible that the incremental impact of the Program and the activities it covers in combination with the potential impacts of these other activities could be cumulatively considerable.

This section also describes two ongoing projects that could combine with Program effects to cause a cumulative impact: (1) the Federal Energy Regulatory Commission's (FERC) re-licensing of the Klamath Hydroelectric Project; (2) recent changes to the State Watermaster Program by the State Legislature and DWR.

### **Projects Subject to Fish and Game Code, § 1600 *et seq.***

An entity must notify CDFG before beginning an activity that will substantially divert or obstruct the natural flow of, or substantially change or use material from the bed, channel, or bank of a river, stream, or lake, such as the Scott River and its tributaries, are subject to the notification requirement in Fish and Game Code, § 1602. Such activities could include restoration projects to enhance coho salmon habitat. If CDFG determines that the activity described in the notification could substantially adversely affect an existing fish or wildlife resource, the entity must obtain a streambed alteration agreement (SAA) before beginning the activity. CDFG maintains a database of all notifications it has received for projects in Siskiyou County since 2002. Of the projects listed in the database, 130 projects occurred in the Scott River watershed (see **Table 4-1**) (Harris, 2007, 2008). Many of the projects included in Table 4-1 are representative of activities the Program covers, including those relating to ongoing routine agricultural operations and restoration projects. Table 4-1 also lists projects outside the scope of the Program. These include culvert repair, bridge work, gravel extraction, timber harvest plans, and emergency repair work in the watershed.<sup>4</sup> Although these projects are outside the scope of the Program, they are representative of the type of projects that could occur in the future in the Program Area. Together these projects comprise activities that will have short- and long-term impacts in the Program Area, both adverse and beneficial.

While it is not possible to predict the exact number and types of projects in or near the Scott River, its tributaries, and other rivers, streams, and lakes in the Program Area that will be subject to Fish and Game Code, § 1602, it is reasonably foreseeable that such projects will continue to occur in the future, and that the entities responsible for those projects will notify CDFG in accordance with the requirements in Fish and Game Code, § 1602, or in the case of emergency projects, Fish and Game Code, § 1610 (see footnote 4).

As mentioned above and described elsewhere in this Draft EIR, the Covered Activities include coho salmon restoration projects. To evaluate cumulative impacts that relate to those projects, a discussion of past, present, and reasonably foreseeable future restoration projects are discussed below.

The list below includes most of the agency and non-profit programs that conduct and/or funded restoration activities within the bed, bank, and channels of the Scott River watershed.

- Bureau of Reclamation (BOR)– Klamath Watershed Restoration Program
- CDFG Fisheries Restoration Grant Program

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<sup>4</sup> Emergency work is not subject to the notification and SAA requirements in Fish and Game Code, § 1602. Instead, the entity performing the emergency work must simply notify CDFG of the work within 14 days of beginning the work. (Fish and Game Code, § 1610.)



**TABLE 4-1**  
**SUMMARY OF CDFG-TRACKED ACTIVITIES IN THE BED, BANKS AND CHANNEL OF THE SCOTT RIVER WATERSHED (2002– JUNE 2008)**

<b>Project Name</b>	<b>Year Initiated</b>	<b>Project Description</b>	<b>Water</b>	<b>Receiving Water</b>
Crystal Creek Ditch Cleaning	2002	Ditch Cleaning	Crystal Creek	Patterson Creek
Kidder Creek Work Order 03FJ303	2003	Placement of Pipe under Streambed	Kidder Creek	Scott River
Menne Extraction	2003	Bar Skimming Operation	Scott River	Klamath River
Scott River Dredge Tailings Interim	2003	Bank Stabilization	Scott River	Klamath River
Scott River Work Order 03-FJ303	2003	Placement of Pipe under Streambed	Scott River	Klamath River
Shackleford/ Mill Creek Water Quality Improvement Project	2003	Construction of a Tail Water Return Pond	Unnamed	Scott River
Cooper Meadows 2004 THP	2004	Timber Harvest Plan	Kangaroo Creek	Cooper Creek
Ditch Cap THP	2004	Timber Harvest Plan	Ditch Creek (technically outside the watershed)	Cottonwood Creek
Friden Ditch Fish Screen Project	2004	Fish Screening	Kidder Creek	Scott River
Fruit Growers Supply	2004	Description not available	Meamber Creek	Scott River
Michael Thamer on Wildcat Creek	2004	Seasonal Diversion	Wildcat Creek	Scott River
Moffett Creek Road Abandonment	2004	Road abandonment	Unnamed	Moffett Creek
Quartz THP	2004	Timber Harvest Plan	Unnamed	Alder Creek
SB 271 - Scott River Fish Screening Project	2004	Fish Screening	Scott River	Klamath River
SB 271 Newton Enhancement Project	2004	SB 271 Newton Enhancement Project	East Fork Scott River	Scott River
Turner Diversions	2004	Water Diversion	Jackson, Wildcat, Grizzly and Sugar creek	Scott River
Thamer Diversion	2004	Water Diversion	Wildcat Creek	Scott River
Scott Bar Exploration I	2004	Exploration of the Scott Bar for Placer Gold	Scott River	Klamath River
Scott River Bank Stabilization	2004	Bank Stabilization	Scott River	Klamath River
Upper Mill Creek THP	2004	Timber Harvest Plan	McKinney Creek (technically outside the watershed)	Mill Creek
Wildcat THP	2004	Timber Harvest Plan	Wildcat Creek	Unnamed
3 Wood THP	2005	Timber Harvest Plan	Unnamed	Cottonwood Creek
Blue Whiskey	2005	Description not available	Unnamed	Tate Creek

**TABLE 4-1 (continued)**  
**SUMMARY OF CDFG-TRACKED ACTIVITIES IN THE BED, BANKS AND CHANNEL OF THE SCOTT RIVER WATERSHED (2002–JUNE 2008)**

<b>Project Name</b>	<b>Year Initiated</b>	<b>Project Description</b>	<b>Water</b>	<b>Receiving Water</b>
Cabin Creek 2006	2005	Work to be completed in 2006	Rail Creek, Rock Fence Creek	Scott River, Rail Creek
Clark Creek 2005 THP	2005	Abandonment of Water Crossing		Clark Creek
Duzel Creek Water Pipe Installation	2005	Installation of Water Pipe Across Duzel Creek	Duzel Creek	Moffett Creek
Farmer's Ditch	2005	Fish Passage Improvement	Scott River	Klamath River
French Creek 2005 THP	2005	Timber Harvest Plan	Meeks Meadow Creek, North Fork French Creek	North Fork French Creek, French Creek, Paynes Lake Creek
Johnson Creek Estates	2005	Description not available	Johnson Creek	Crystal Creek
Johnston Flood Repair and Bank Restoration	2005	Straighten and Define Creekbed of Seasonal Indian Creek back to natural condition	Indian Creek	Scott River
Krause Bank Stabilization and Riparian Enhancement	2005	Bank Stabilization	Moffett Creek	Scott River
Nixon Property Access Maintenance	2005	Maintain Existing Low River Crossing	South Fork Indian Creek	Indian Creek
Owens_E. Fork Scott River Bank Stabilization and Riparian Enhancement	2005	Bank Stabilization	East Fork Scott River	Scott River
Scott River Tailings, Bank Stabilization and Channel Reconstruction	2005	Scott River Bank Stabilization and Fish Passage	Scott River	Klamath River
Scott Valley Ranch on Indian Creek Emergency Bank Repair	2005	Bank Stabilization and Channel Repair	Indian Creek	Scott River
Scott Valley Watershed	2005	Proposed Scott River Watershed Permitting Program	Various tributaries	Scott River
Shackleford Creek Bridge Replacement	2005	Removal of the existing steel truss bridge. Construction of two new approaches and steel truss bridge north of existing bridge.	Shackleford Creek	Scott River
Shackleford Creek Diversion Improvement Project, Agreement P0410316	2005	Fish Passage Improvement	Shackleford Creek	Scott River
Turkey THP	2005	Timber Harvest Plan	Meamber Creek	Scott River
Young's Dam Fish Ladder	2005	Fish Ladder Construction	Scott River	Klamath River
Brownell Emergency Bank Reinforcement: Shackleford Creek, plus debris removal	2006	Bank Stabilization	Shackleford Creek	Scott River

**TABLE 4.1-1 (continued)**  
**SUMMARY OF CDFG-TRACKED ACTIVITIES IN THE BED, BANKS AND CHANNEL OF THE SCOTT RIVER WATERSHED (2002– JUNE 2008)**

<b>Project Name</b>	<b>Year Initiated</b>	<b>Project Description</b>	<b>Water</b>	<b>Receiving Water</b>
Callahan Water District	2006	Replacement of Gravel Bed Intake Structure	Boulder Creek	Wolf Creek
Emergency Work Kidder Creek Flood 05/06	2006	Road Repair, Culvert Installation, and Riprap	Kidder Creek	Scott River
French Creek Farm	2006	Replacement Weir	French Creek	Scott River
JH Ranch Bridge	2006	New Bridge Installation	French Creek	Scott River
Lower Mill Creek 2007	2006	Work to be completed in 2007	Mill Creek	
Martin on Kidder Creek Emergency Reestablishment of Banks	2006	Bank Stabilization	Kidder Creek	Scott River
Matteson on Etna Creek Emergency tree removal	2006	Tree Removal	Etna Creek	Scott River
McAdams Emergency Repair Flood 05/06	2006	Road Repair and Channel Improvement	McAdam Creek	Scott River
Mill Creek Crossing and Flood Central	2006	Flood Control Maintenance, Gravel Berm Placement	Mill Creek	Shackleford Creek
Miranda on Indian Creek 'Emergency Project'	2006	Repair Damages from May 2006 flood event	Indian Creek	Scott River
Moffett Creek Emergency Repair Project 05/06 Flood	2006	Install (and later remove) temporary culvert, stabilize shoulder, restore existing overflow channel, road modifications	Moffett Creek	Scott River
Moody's on Shackleford Creek Bank Stabilization Emergency Project	2006	Bank Stabilization	Shackleford Creek	Scott River
Sisq PWD on Scott River Flood 2005/2006	2006	Road Repair and Cross Drain Installation	Scott River	Scott River
Tickner on Moffett Creek Maintenance	2006	Channel and Bank Maintenance	Moffett Creek	Scott River
Happy Camp 'Emergency' Indian Creek	2007	Hillside adjacent to house failed due to water seepage from undetermined source, partial exposed house foundation	Indian Creek	Klamath River
Black Bridge Fiber Optics	2007	Placement of a new underground Fiber Optic line throughout Scott Valley	Scott River	Klamath River
Install Culvert in a Gulch	2007	Use of a small backhoe to create a bed for the culvert in the gulch install the culvert compact fill around the culvert with a vibra plate or wacker. Use a small bulldozer to extend driveway across gulch. Rip rap culvert ends and stabilize fill as required.	Unnamed	Moffett Creek
Fish passage through diversion improvements in the Scott River Phase I	2007		Scott River	Klamath River

**TABLE 4-1 (continued)**  
**SUMMARY OF CDFG-TRACKED ACTIVITIES IN THE BED, BANKS AND CHANNEL OF THE SCOTT RIVER WATERSHED (2002–JUNE 2008)**

Project Name	Year Initiated	Project Description	Water	Receiving Water
Storm damage of vortex boulder weirs	2007		French Creek   Patterson Creek   Shackleford Creek	Scott River
Scott River Rearing Habitat Improvement	2007	Create vegetated bumps, vegetated baffles, boulder constrictor weirs and boulders placed in the channel. Focus is to improve instream conditions for the rearing of juvenile salmonids while insuring the protection of the stream banks.	Scott River	Klamath River
East Fork Flow Enhancement	2007		East Fork Scott River	Scott River
Horse Creek Migration Barrier Removal Project	2007	Improve fish passage and replace a flood damaged culvert	Horse Creek	Klamath River
Canyon Creek Bridge	2007	Install temporary bridge and replace a permanent bridge	Canyon Creek	Scott River
Emergency work Kidder Creek	2008	Gravel build-up in middle of creek forced water to north side of undercut bank exposing tree roots, toppling trees, loosing bank and cutting toward the road. Left unchecked would have lost two remaining trees, access road and water would flow in to the town of Greenview.	Kidder Creek	Scott River
Moore's Gravel	2008	Extraction of 2,100,000 cubic yards of dredger tailings turning into marketable aggregate.	Westside Drain	Scott River
Tschopp Kidder Creek Mine	2008		Kidder Creek	Scott River

NOTE: In addition to the projects detailed above, the following represents projects implemented in the Scott River Watershed during the 2002-2008 period (that did not include identification of year implemented):

Construction/Maintenance: 6 projects

Emergency Repair Work: 35 projects

Fisheries – related: 4 projects

Gravel Extraction: 5 projects

Streambank enhancement: 4 projects

Timber Harvest Plans: 3 projects

Water Supply/Delivery: 6 projects

SOURCE: CDFG, 2008

- CDFG Klamath River Restoration Grant Program
- NRCS Water Quality and River Restoration Program
- National Oceanic and Atmospheric Administration (NOAA) Community Based Restoration Grant Program
- Siskiyou County Department of Public Works and Five Counties Salmonid Conservation Program
- Siskiyou Resource Conservation District
- French Creek Watershed Advisory Group
- USFWS Klamath Restoration Program

All of these entities have funded or conducted instream, riparian, and other related projects subject to the notification requirements in Fish and Game Code, § 1602. These restoration and fish passage, habitat, and water quality improvement projects are representative of the variety of activities that have occurred throughout the watershed within the past five years. They also represent the types of projects that will continue to be funded and implemented in the watershed. For the purpose of this section, past projects are defined as instream, riparian, and other related activities that were initiated between 2002 and 2005. New projects are defined as instream, riparian, and other related activities that were funded in 2006 and 2007. Projects funded in 2006 were typically implemented in 2007. Projects funded in 2007 will be implemented in 2008 and beyond.

## **Restoration and Enhancement-Related Projects Implemented in the Scott River Watershed**

### ***CDFG Fisheries Restoration Grant Program***

CDFG administers the Fisheries Restoration Grant Program (FRGP) for watershed restoration projects within the coastal watersheds of California. The focus of FRGP is to restore anadromous salmonid habitat with the goal of ensuring the survival and protection of coho salmon, steelhead trout, Chinook salmon, and cutthroat trout in coastal watersheds of California. Since 1981, there has been a collaborative effort with more than 600 stakeholders to restore declining salmon and steelhead trout habitat. Over the last 24 years, FRGP has invested over \$170 million and supported approximately 2,600 salmonid restoration projects throughout the state's coastal watersheds.

Projects range from education and instream barrier removal, to riparian restoration and project monitoring. These projects are consistent with the Steelhead Restoration and Management Plan for California and the Recovery Strategy for California Coho Salmon. The success of these projects has contributed to an evolving program that directly benefits threatened and endangered anadromous salmonids in coastal California. Local partners in the Scott River watershed have received many FRGP grants since the Program's inception. Since 2001, CDFG has funded 38 instream and upslope projects (**Table 4-2**).

**TABLE 4-2**  
**CDFG-FUNDED FISHERIES RESTORATION GRANT PROGRAM**  
**INSTREAM AND UPSLOPE PROJECTS IN THE SCOTT RIVER WATERSHED (2002-2007)**

Project Name	Stream Location	Project Type
<b>2002</b>		
Diversion Improvement Program in Coho Over-Summering Area	French Creek, Miners Creek	Instream Habitat Restoration
Fish Screen Maintenance Program-Implementation	South Fork of Scott River, French Creek, Shackleford Creek	Project Maintenance
French Creek Restoration Project	French Creek	Public School Watershed and Fishery Conservation Educational Program
Lower Kidder Creek Enhancement Project	Kidder Creek	Riparian Restoration
Scott River Fish Screening Program III	Mill Creek, Moffett Creek	Fish Screening of Diversions
Shackleford Creek Demonstration Project	Shackleford Creek	Instream Habitat Restoration
Sugar Creek Flow Enhancement through Diversion Piping	Sugar Creek	Water Conservation Measures
<b>2003</b>		
Moffett Creek Road Abandonment and Decommission	Moffett Creek, Sissel Gulch, Skookum Gulch	Watershed Restoration (Upslope)
Scott River Water Balance - Precipitation Gaging	Scott River Basin	Monitoring Status and Trends
<b>2004</b>		
Fish Screen for Stapleton Pump Diversion	French Creek	Fish Screening of Diversions
Kangaroo Creek Fish Passage	Kangaroo Creek	Fish Screening of Diversions
Newton Enhancement Project	East Fork Scott River	Riparian Restoration
Scott River Adult Coho and Steelhead Spawning Ground Surveys	Various Scott River tributaries	Monitoring Status and Trends
Young's Dam Fish Ladder Construction	Scott River	Fish Ladder
<b>2005</b>		
Farmers Ditch Diversion Improvement Project	Scott River	Fish Screening of Diversions
Scott River - Out-Migrant Trapping of Key Tributaries	Scott River, Scott River Tributaries	Monitoring Status and Trends
Scott River Tailings Bank Stabilization and Channel Reconstruction Project	Scott River	Instream Bank Stabilization
Scott River Water Balance: Streamflow and Precipitation Gaging	Scott River, Scott River Tributaries	Monitoring Status and Trends
Scott River Watershed Monitoring Program - Water Quality	Scott River, Scott River Tributaries	Monitoring Status and Trends
Shackleford Creek Diversion Improvement Project	Shackleford Creek	Fish Screening of Diversions
<b>2006</b>		
East Fork Water Quality Improvement Project	East Fork Scott River	Water Conservation Measures
French Creek Riparian Planting and Fencing	French Creek	Riparian Restoration

**TABLE 4-2 (Continued)**  
**CDFG-FUNDED FISHERIES RESTORATION GRANT PROGRAM**  
**INSTREAM AND UPSLOPE PROJECTS IN THE SCOTT RIVER WATERSHED (2002-2007)**

Project Name	Stream Location	Project Type
<b>2006 (cont.)</b>		
Fish Screen Maintenance Program – Implementation	Boulder Creek, East Fork of the Scott River, Etna Creek, French Creek, Johnson Creek, Kidder Creek, Mainstem Scott River, Mill Creek, Miners Creek, Patterson Creek, Shackleford Creek, Sniktaw Creek	Project Maintenance
Scott River Restoration/Education Project	Various Scott River tributaries	Public School Watershed and Fishery Conservation Educational Program
Fish Passage through Diversion Improvement in the Scott River Basin	Diversion improvement at 13 sites; fish screens at 4 sites	Fish Passage
Rail Creek Fish Passage	Rail Creek	Fish Passage
Farmer's Ditch Fish Passage	Scott River	Fish Passage
Scott River Head Gate and Measuring Weir Installation Program	Scott River, SF Scott River; Sugar, French, Etna, Big Mill, Oro Fino and Kidder creeks	Water Conservation
Storm Damage Repair of Weirs in the Scott River Basin	Patterson, French, Shackleford and Minors creeks	Fish Passage
Scott River Fish Screening	Kangaroo, Etna and Minors creeks and Big Slough	Fish screens
Scott River Spawning Gravel	Sugar Creek, SF Scott River	Habitat Enhancement
Scott River Rearing Enhancement	Shackleford Creek, Scott River	Habitat Enhancement
<b>2007</b>		
Sugar Creek Debris Modification	Sugar Creek	Fish Passage
Young's Dam Fish Passage	Scott River	Fish Passage
Scott River Off-Channel Habitat Enhancement	Scott River	Habitat Enhancement
ITP Capacity Building for Siskiyou & Shasta Valley RCDs	Shasta River and Scott River watersheds	Capacity Building
<b>2008</b>		
Scott River Tributary Flow Gaging & Precipitation Monitoring	Scott River, Scott River Tributaries	Monitoring Status and Trends
Implementation of Key Coho Recovery Tasks in the Scott River Watershed	Scott River, Scott River Tributaries	Produce Dry & Critical Dry Year Contingency Plan and Develop several Priority Plans for Restoration Activities

SOURCE: CDFG, 2008

Table 4-2 is organized by the year that projects were funded. To clarify, projects are typically funded in one year and implemented in the following year. Hence, projects funded in fiscal year (FY) 2006/2007 were implemented in 2007 and beyond, and projects funded in FY 2007/2008 are being implemented in 2008 and beyond. For that reason, Table 4-2 includes past and present projects.

It is reasonably foreseeable that CDFG will continue to fund fisheries restoration projects in the Scott River watershed in the future, but it is difficult to project funding levels or funding priorities for FRGP. Future funding is determined during the annual budget process. For FY2007/2008, FRGP received \$7.8 million from NOAA, and \$8.75 million in state funding came from the General Fund, Wildlife Conservation Board, and Proposition 84 allocations. In FY2008/09, CDFG will likely receive \$10.9 million in Proposition 84 funds (according to the May 2008 revision of the Governor's budget), and \$9.5 million from NOAA (Flosi, 2008).

### ***CDFG Klamath River Restoration Grant Program***

In FY 2006/2007, CDFG received a one-time budget augmentation to fund the Klamath River Restoration Grant Program (KRGP). This program funds projects that have immediate benefits for salmon and steelhead. The emphasis was on projects to remove permanent or seasonal migration barriers in otherwise functioning historical salmon and steelhead streams. CDFG has directed funds for projects that provide fish passage, including removal of flashboard dams and screening of diversions (**Table 4-3**). All projects funded in the Scott River watershed are being implemented by the project applicant. Similar to the FRGP, all projects that were funded in 2006 have been disbursed for project implementation in 2007. Depending on the nature of the project, some projects will continue through 2008. KRGP was not reauthorized for additional funding in FY2007/2008 (Scott, 2007). Consequently, it is reasonably foreseeable that the current listed projects will be the only projects funded KRGP. These projects will be covered by individual SAAs.

**TABLE 4-3**  
**CDFG KLAMATH RIVER RESTORATION GRANT PROGRAM PROJECTS**  
**IN THE SCOTT RIVER WATERSHED (FY 2006/2007)**

<b>Project Name</b>	<b>Project Type</b>	<b>Location</b>
Farmers Ditch Fish Passage	Fish Passage	Farmers Ditch
Fish Passage through the Improvement of 13 diversion sites	Fish Passage	East Fork Scott, Scott River, French & Shackleford creeks
Rail Creek Fish Passage	Fish Passage	Rail Creek
Scott River Fish Screen Program	Screening, Construction, Maintenance Program	Big Slough, Etna, Kangaroo & Miners Creeks
Scott River Head Gate & Measuring Weirs	Diversion Improvements	Scott River
Scott River Rearing Habitat Improvement	Habitat Improvements	Scott River
Scott River Spawning Gravel Demonstration	Spawning Enhancement	Scott River
Storm Damage Repair of Weirs	Storm Damage	French, Miners, Patterson & Shackleford creeks

SOURCE: CDFG, 2007



### ***NRCS Water Quality and River Restoration Program***

In addition to several other conservation programs, NRCS administers the Environmental Quality Incentives Program (EQIP) in the Program Area. EQIP provides individuals engaged in livestock and agricultural production with incentive payments and cost-share benefits to implement conservation measures on agricultural lands in the Scott Valley. Commonly funded EQIP projects include implementation of ground and surface water conservation measures, riparian fencing, and healthy forest and fuel load projects. The highest priority is agricultural improvements that will help meet water quality objectives (NRCS, 2007a).

### ***NOAA Community-Based Restoration Program***

NOAA Restoration Center has administered its Community-based Restoration Program since 1996 in order to restore NOAA trust resources and to improve the environmental quality of local communities.<sup>5</sup> This program uses a grassroots approach to engage communities in fisheries habitat restoration. Although NOAA Restoration Center has not funded projects through the Community-Based Restoration Program in the past five years, NOAA is currently engaged in discussions with SQRCD regarding several project initiatives, including:

- Support for water leasing via the Scott River Water Trust;
- Fish passage enhancement at up to two existing irrigation water diversions on tributaries to the Scott River;
- Juvenile salmon rearing habitat restoration on the mainstem Scott River;
- Gravel enhancement on Sugar Creek; and
- Gravel enhancement on the South and East Forks of the Scott River.

### ***Siskiyou County Department of Public Works and Five Counties Salmonid Conservation Program***

In response to the listing of coho salmon under ESA, five counties in northern California – Siskiyou, Del Norte, Humboldt, Trinity, and Mendocino – joined together to form the Five Counties Salmonid Conservation Program (5C Program). These five counties are within the "Transboundary Evolutionarily Significant Unit (ESU)" for the coho salmon (CFSP, 2002). The mission of the 5C Program is to strive to protect the economic and social resources of northwestern California by providing for the conservation and restoration of salmonid populations to healthy and sustainable levels and to base decisions on watershed rather than county boundaries. Siskiyou County Department of Public Works (DPW) is the county-liaison for the 5C Program.

As part of this joint effort, UCCE and county staff developed a "Water Quality and Stream Habitat Protection Manual for County Road Maintenance in Northwestern California Watersheds." The purpose of this manual is to provide a "user-friendly, fish-friendly" guide for county road maintenance staff as part of each county's primary mission to provide a safe and

<sup>5</sup> NOAA's NMFS acts on behalf of the U.S. Department of Commerce as a trustee for coastal and marine resources, including commercial and recreational fishery resources; anadromous and catadromous species; marine mammals; endangered and threatened marine species and their habitats; marshes, mangroves, seagrass beds, coral reefs, and other coastal habitats; and resources associated with National Marine Sanctuaries and National Estuarine Research Reserves.

open road system for the traveling public. DPW staff has been trained to use this manual and to implement sediment control practices related to bridge maintenance, road redesign and reconstruction, as well as remediation of fish passage barriers.

The 5C Program has been a catalyst for several county-wide assessments. In 2000, an assessment of culvert fish barriers was conducted. Subsequently, Siskiyou County has completed several barrier removal projects involving the replacement of culverts with bridges. Future projects of this kind are contingent on available grant money and staff time (Sumner, 2007). During the spring of 2006, DPW received authorization to initiate a Direct Inventory of Roads and Treatments (DIRT), using the 5C Program protocols, for the Scott and Salmon River watersheds. Using grant monies from CDFG, DPW completed an inventory of 377 miles of county-maintained roads in the Salmon and Scott River watersheds (Sumner, 2008). The goal of the DIRT is to identify specific sites along county roads and facilities that are contributing sediment to waterways and to develop and prioritize implementation treatments (5C Program, 2007). The DIRT program will support Siskiyou County's implementation of actions identified in the voluntary TMDL Action Plan (Sumner, 2007).

It is reasonably foreseeable that Siskiyou County will continue to implement sediment control practices related to bridge maintenance, road redesign and reconstruction, as well as remediation of fish passage barriers. However, it is too early to determine the range and location of projects that would be implemented. DPW plans to prioritize roads using findings from the inventory in the near future.

### ***Siskiyou Resource Conservation District Projects***

In addition to developing the Program with CDFG, SQRCD has been conducting a variety of conservation and restoration projects over the years on public and private lands within the District by providing technical, financial, and educational support to willing landowners. In order to do so, SQRCD has sought funding from a variety of sources, including CDFG, to implement on-the-ground restoration and habitat enhancement projects.

**Table 4-4** provides a summary of recently completed and current, ongoing SQRCD activities. This table provides a clear picture of the current on-the-ground implementation work that SQRCD is engaged in, in addition to the upcoming Klamath River Restoration Grant Program projects discussed above (and shown in Table 4-3).

SQRCD will continue to implement projects similar to these listed above. The range and scope of Covered Activities of this kind are defined in the proposed Incidental Take Permit (ITP). The general categories include flow enhancement, habitat improvement, and barrier removal/fish passage, and are described in detail in Chapter 2. The mitigation measures required as part of the Program would be the responsibility of the SQRCD and have been evaluated in Chapter 3. The Covered Activities and associated avoidance, minimization and mitigation measures, are the focus of the Program's cumulative contribution.

**TABLE 4-4**  
**RECENTLY COMPLETED AND ONGOING SQRCD PROJECTS (2005-2008)**

Project Name	Project Type	Project Partner/ Funding Source
<b>Recently Completed Projects</b>		
French Creek Riparian Protection & Enhancement	Habitat Restoration	SWRCB / Proposition 13
Moffett Creek Road Abandonment & Decommission	Land Management	CDFG
Newton Enhancement Project Task 1	Water Quality	Pacific States Marine Fisheries Commission / CDFG
NRCS - Irrigation Water Management I and II	Water Supply/Irrigation Efficiency	NRCS Farm Bill
Scott Gage	Water Supply/Irrigation Efficiency	USFWS
French Creek Riparian Protection & Enhancement	Habitat Restoration	SWRCB/Prop 13
Sugar Creek Flow Enhancement Through Diversion Piping	Water Supply Efficiency	CDFG/CCSRP
Scott River Watershed Fish Screening Program	Fisheries Protection	Wildlife Conservation Board
Mid-Klamath River Chinook Spawner Escapement Survey	Fisheries Studies	USFWS
Implementation of Scott River Water Trust Program (Phase II)	Water Supply Studies	CDFG
Newton Enhancement Project Task II	Habitat Restoration	CDFG / California Costal Salmon Recovery Program (CCSRP)
Scott River Coho Spawning Assessment	Fisheries Studies	USFWS
Scott River Adult Coho Spawning Ground Surveys	Fisheries Studies	CDFG / CCSRP
Scott River Juvenile Coho Summer Habitat Utilization Surveys	Habitat Studies	USFWS
Scott River Water Balance: Streamflow & Precipitation Gaging	Water Supply Studies	CDFG
Scott River Out-Migrant Trapping of Key Tributaries	Fisheries Studies	CDFG
Scott River Water Balance - Precipitation Gaging	Water Supply Studies	CDFG
Scott River Watershed Monitoring Program	Water Quality	CDFG
Shackleford Creek Diversion Improvement Project	Water Supply Efficiency	CDFG
Scott Mesohabitat Typing	Fisheries Studies	USFWS
<b>Current, Ongoing Projects</b>		
Aquatic Habitat Needs Study Plan for Scott Mainstem & Tributaries	Fisheries Studies	USFWS
Farmer's Ditch Diversion Improvement	Water Supply Efficiency	CDFG
Farmer's Ditch Alternative Stock Watering System	Water Supply Efficiency	Cantara Trustee Council (CTC), Scott River Watershed Water Quality Improvement Project (SRWWQIP)
Scott River & Major Tributaries Instream Flow Analysis	Water Supply Studies	USFWS
Scott River Riparian Restoration Analysis	Habitat Restoration	USFWS
Wolford Slough Groundwater Retention	Water Supply	CTC, SRWWQIP
Sugar Creek Flow Enhancement	Water Quality	CTC, SRWWQIP
Scott River Emergency Flow Enhancement Project.	Water Supply	DWR

**TABLE 4-4 (Continued)**  
**RECENTLY COMPLETED AND ONGOING SQRCD PROJECTS (2005-2008)**

Project Name	Project Type	Project Partner/ Funding Source
Current, Ongoing Projects (cont.)		
Scott Valley Community Groundwater Monitoring Program	Water Supply	Siskiyou County
Farmer's Ditch Off-Channel Rearing Project - CDFG Adaptive Management	Fisheries	PSMFC
Cliff Lake Rehabilitation Project	Water Supply	USDA/KNF
Storm Damage Repair of Vortex Boulder Weirs in the Scott River Watershed	Water Supply/Water Quality	CDFG/KRRG
Shackleford Creek Boulder Weir Repair	Water Supply	FWS/PW
Adult Coho Spawning Ground Survey	Fisheries	USFWS
Scott River Fish Screen Construction & Maintenance	Fisheries	CDFG/KRRG
Scott River Water Trust	Water Supply	DWR
Fish Passage-Diversion Improvement in Scott River Watershed	Fisheries	CDFG/KRRG
Scott River Head Gate & Measuring Weir Installation	Water Quality	CDFG/KRRG
KRRP-Shackleford Creek Diversion Structure Improvement	Water Supply	BOR
Fish Passage for Agricultural Diversion in Scott River System	Water Supply	USFWS
Shackleford Creek Confluence Restoration Project-2007-Fishpass-HR-04	Water Supply	USFWS
Scott River Summer Habitat Inventory Mapping	Fisheries	USFWS
Scott River Rearing Habitat Improvement	Fisheries	CDFG/KRRG
Scott River Spawning Gravel Demonstration	Fisheries	CDFG/KRRG
French Creek Riparian Protection & Enhancement II	Riparian	FWS/PW
French Creek Riparian Planting & Fencing	Riparian	CDFG
Jenner-Hurlimann Fish Screens - CDFG Adaptive Management	Fisheries	PSMFC
French Creek Watershed Advisory Group (WAG)	Fisheries	CTC
SRWWQIP: Task 2 - Scott River Watershed Planning & Assessment	Planning	CTC
Sugar Creek Flow Enhancement Project, Phase 2	Water Supply	CDFG/CCSRP
East Fork Water Quality Improvement Project	Water Quality	Supply/Water CDFG
Farmers Ditch Fish Passage	Water Quality	Supply/Water CDFG/KRRG
Scott River Tributary Flow Gaging & Precipitation Monitoring	Water Supply	CDFG/FRGP
Scott River Off-Channel Habitat Enhancement	Fisheries	CDFG/FRGP
Scott River Instream Transfer of Water Rights	Water Supply	Bella Vista Foundation

SOURCE: SQRCD, 2006; Yokel, 2008.

### ***Scott River Watershed Council***

The Scott River Watershed Council provides a multi-interest effort to cooperatively seek solutions, to help manage local resources, and to solve related problems. The primary role is to inform the community on resource issues, to aid in resource management, and to recommend to SQRCD prioritized project opportunities in the Scott River Watershed for funding and implementation. Together with the SQRCD, the Council works cooperatively to monitor the effectiveness of implemented programs, plans, and projects (SRWC, 2008).

### ***French Creek Watershed Advisory Group***

The French Creek Watershed Advisory Group (WAG) was formed in 1990 at the advisement of the State Board of Forestry to address cumulative watershed effects and road-related discharges of sediment in the French Creek watershed, a sub-watershed located within the Program Area (NCRWQCB, 2005). This non-regulatory body initially focused on reducing sediment yield in the local drainage by preparing the French Creek Watershed Road Management Plan and Monitoring Plan. Subsequently, WAG members facilitated implementation of recommended actions including road improvements (out-sloping, rocking, and modifying drainage systems) and monitoring actions (measuring fine sediments and other water quality indicators). French Creek WAG participants include local, state, and federal agencies representatives from Siskiyou County, SQRCD, CDFG, California Department of Forestry and Fire Protection, NCRWQCB, the Klamath Basin Ecosystem Restoration Office of the USFWS, NRCS, and USFS, as well as SRWC, timber representatives from Fruit Grower's Supply Company, Roseburg Resources Company, Sierra Pacific Timber Products, the Audubon Society, and the French Creek Drainage Property Owners' Association. In 1996, the French Creek WAG received the Conservation Fund (CF) Industries/ CF National Watershed Award for voluntary initiatives (SRWC, 2004 cited in NCRWQCB, 2005). Voluntary measures guided by WAG are ongoing.

From 2002 to the present, NRCS has allocated approximately \$4.1 million to projects in the Scott Valley, primarily from two funding sources: the Klamath sub-fund, and the general EQIP fund (Patterson, 2008). Klamath sub-fund projects have included improved water delivery systems (e.g., shifting from flood irrigation to pivot sprinkler systems) and improved irrigation water management (e.g., installing soil moisture sensors and providing technical assistance to use them). In 2006, NRCS distributed \$548,000 toward 10 contracts to implement water conservation and water quality projects in high-priority streams in the Scott Valley. Only two of these 10 contracts have been completed and the rest are ongoing. In 2007, \$263,000 was disbursed for implementation of similar projects (Patterson, 2007). No Klamath sub-fund allocations were made in 2008 (Patterson, 2008).

Under the general EQIP program, a wider variety of contracts have been issued to implement grazing, open space, and wildlife habitat improvements. These contracts have been a complement to the more focused Klamath sub-fund projects (Patterson, 2007). Most recently, general EQIP funds have been allocated to forest/fuel load management contracts. In 2006 and 2007, approximately \$120,000 was distributed each year throughout the Scott Valley. In 2008, \$187,000 was distributed (Patterson, 2008). NRCS is currently developing a consolidated report

that identifies the number of projects (including current and ongoing), total funds obligated, and performance measures for western Siskiyou County.

In addition to EQIP, Conservation Reserve Program<sup>6</sup> contracts are available to farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover, such as native and non-native grasses, trees, filterstrips, and riparian buffers (Patterson, 2007). Farmers receive an annual rental payment for the term of the multi-year contract. Cost sharing is provided to establish the vegetative cover practices (NRCS, 2007b). These activities contribute to improved water quality, habitat enhancement, and water usage efficiency.

### ***U.S. Fish and Wildlife Service Klamath Restoration Program***

USFWS administers the Klamath Restoration Program, which funds projects that provide fish passage improvements, fish screen repairs, habitat restoration, and community education. These projects benefit federal trust species (such as salmon, trout, and other species important to Tribal traditions), as well as recreational and commercial fisheries (USFWS, 2006). Projects are funded through three funding streams: Jobs in the Woods (JITW), Partners for Fish and Wildlife, and the Fish Passage Program. JITW program was the USFWS' contribution to the NWFP's watershed restoration activities. The Partners for Fish and Wildlife Program provides technical and financial assistance to private landowners for riparian and in-stream habitat restoration, and the Fish Passage Program provides funds to improve fish passage through waterways. The program continues to fund restoration projects despite the expiration of the Klamath Act as a funding source (Eastman, 2008).

**Table 4-5** shows the projects that were funded in the Program Area.

## **4.1.4 Other Activities**

In addition to the activities and projects described above, there are four ongoing projects that in combination with the Covered Activities could make the impacts from those activities cumulatively considerable.<sup>7</sup> They include: 1) the Federal Energy Regulatory Commission's (FERC) re-licensing of the Klamath Hydroelectric Project; 2) Fruit Growers Supply Company's (FGSC) preparation of a multispecies Habitat Conservation Plan (HCP); 3) recent changes to the State Watermaster Program by the State Legislature and DWR; and 4) the companion Shasta River Watershed-wide Permitting Program.

### **FERC Relicensing of the Klamath Hydroelectric Project**

FERC is currently considering PacifiCorp's application to relicense its Klamath Hydroelectric Project. PacifiCorp is a subsidiary of MidAmerican Energy Holdings Company. The Klamath Hydroelectric Project encompasses six hydropower dams in Oregon and California, including Irongate, Copco No. 1, Copco No. 2, and J.C. Boyle on the mainstem Klamath River in

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<sup>6</sup> The Conservation Reserve Program is administered through the Farm Service Agency, a partner organization of NRCS.

<sup>7</sup> "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future project projects (CEQA *Guidelines*, § 15065).

**TABLE 4-5  
SCOTT RIVER WATERSHED PROJECTS FUNDED BY  
USFWS KLAMATH RESTORATION PROGRAM (2001–2008)**

Project Name	Project Type	Location
<b>2001</b>		
Patterson Creek Enhancement Project	Habitat Restoration	Patterson Creek
Bosch Habitat Improvement Project	Habitat Restoration	Pond adjacent to Moffett Creek
<b>2002</b>		
Scott River Fish Passage Project	Fish Passage	Scott River
Landowner Riparian Planting and Fencing Project	Habitat Restoration	Scott River Basin
Plank Ranch Habitat Diversity	Habitat Restoration	Plank Ranch
<b>2004</b>		
Scott River Watershed Education & Communication	Education	Scott River Basin
French Creek Drainage Protection & Enhancement Project	Habitat Restoration and Protection	French Creek
<b>2006</b>		
Scott River Water Quality and Wildlife Corridor Improvement	Water Quality and Habitat Restoration	Scott River
<b>2007</b>		
Shackleford Creek Confluence Restoration Project	Habitat Restoration	Scott River
Shackleford Creek Boulder Weir Repair	Fish Passage and Water Quality	Scott River
<b>2008</b>		
Rail Creek Fish Passage and Diversion Improvement Project	Fish Passage and Water Quality	Scott River

NOTE: This table includes on-the-ground projects only. It does not include USFWS-funding for planning, coordination, fisheries studies nor habitat analyses. This table overlaps with projects identified in Table 4-3 that were implemented by the SQRCD.

SOURCE: USFWS, 2007

California, all of which block passage of anadromous fish to spawning and rearing areas in the upper Klamath Basin. Water quality problems in the Klamath River have also been implicated in the decline of the Klamath River's anadromous fish runs. The Klamath is included on California's 2002 section 303d list of impaired water bodies for nutrients, organic enrichment/low dissolved oxygen, and temperature (SWRCB, 2003). Water quality problems are associated with polluted runoff and massive changes to the natural hydrology of the Upper Klamath Basin, and with the effects of the PacifiCorp reservoirs themselves, including the growth of the blue-green algae *Microcystis aeruginosa*, which produces a toxin that is harmful to both fish and human health (CalEPA, 2005). In addition, recent studies have documented significant mortality in juvenile salmon and steelhead populations in the Klamath River downstream of Irongate Dam due to infectious disease, primarily caused by the endemic parasites. In 2004, infection rates in juvenile Chinook salmon ranged from about 20 to 70 percent for *Ceratomyxa shasta* and from 40 to 96 percent for *Parvicapsula minibicornis*. In 2005, dual infection rates at or near

100 percent were observed for consecutive weeks in April, a critical period for outmigration of juvenile anadromous fishes<sup>8</sup> (USFWS, 2007).

Adult salmonids have also been susceptible to infectious disease in the Klamath River. As described in Chapter 3.3, Biological Resources: Fisheries and Aquatic Habitat, a major adult salmonid mortality event occurred in 2002. At least 33,000 adult salmonids died in the lower 36 miles of the Klamath River between mid- to late-September (CDFG, 2004b). Fall-run Chinook salmon were the primary species affected, but coho salmon, steelhead, and other fish species also suffered losses.

The decline of the fishery has had a severe impact on local economies dependent on the salmon runs, including the Klamath River Tribes (the Yurok, Karuk, Hoopa) and the Klamath Tribes of Oregon; commercial fishing and related enterprises on the California and Oregon coasts; and the sports fishing industry (FERC, 2007).

FERC released a Final Environmental Impact Statement (EIS) for relicensing of the Klamath Hydroelectric Project on November 16, 2007, pursuant to the National Environmental Policy Act (FERC, 2007). According to the Final EIS, the project currently has a generating capacity of 161 megawatts and generates on average 716,820 megawatt-hours of electricity annually. In the Final EIS, FERC assessed the environmental and economic effects of the project as proposed by PacifiCorp and identified the following five alternatives:

1. Continuing to operate the project with no changes or enhancements (no-action alternative);
2. Operating the project as proposed by PacifiCorp with additional or modified environmental measures (staff alternative);
3. Staff alternative with conditions filed by the Department of the Interior and Department of Commerce;
4. Retirement of the Iron Gate and Copco No. 1 developments with additional or modified measures for the remaining developments; and
5. Retirement of the Iron Gate, Copco No. 2, Copco No. 1, and J.C. Boyle developments, with additional or modified measures for the remaining developments.

Based on the analysis in the Final EIS, FERC staff concluded that the best alternative for the Klamath Hydroelectric Project would be to issue a new license consistent with the environmental measures specified in the Staff Alternative, but the Commission itself has not yet made a licensing decision.

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<sup>8</sup> USFWS, in cooperation with the Hoopa, Yurok, and Karuk Tribes, is conducting ongoing studies of pathogen infection and anadromous fish health in the Klamath River.



The Klamath Settlement Group, a coalition of tribal, commercial and sports fishing, agricultural, and environmental interests, working with state, local, and federal government agencies, released for public review the “Proposed Klamath Basin Restoration Agreement” on January 15, 2008 (Klamath Settlement Group, 2008).<sup>9,10</sup> The agreement seeks to rebuild fisheries, sustain agricultural communities, and resolve other longstanding disputes related to the allocation of water resources in the Klamath Basin. Key provisions of the Proposed Agreement include:

- A comprehensive program to rebuild Klamath River fish populations sufficient for sustainable tribal, recreational, and commercial fisheries. Elements include actions to restore fish populations and habitats, including a program to reintroduce anadromous species in currently-blocked parts of the Basin; actions to improve fish survival by enhancing the amount of water available for fish, particularly in drier years; and other efforts to support tribes in fisheries reintroduction and restoration efforts;
- A reliable and certain allocation of water sufficient for a sustainable agricultural community and national wildlife refuges;
- A program to stabilize power costs for the Upper Basin’s family farms, ranches, and for the two national wildlife refuges; and,

<sup>9</sup> The proposed agreement lists the following as parties to the agreement:

**United States**

U.S. Department of Agriculture, Forest Service  
U.S. Department of Commerce’s National Marine Fisheries Service  
U.S. Department of the Interior, including Bureau of Indian Affairs, Bureau of Land Management, Bureau of Reclamation, and Fish and Wildlife Service

**State of California**

California Department of Fish and Game

**State of Oregon**

Oregon Department of Environmental Quality  
Oregon Department of Fish and Wildlife  
Oregon Water Resources Department

**Tribes**

Hoopa Valley Tribe  
Karuk Tribe  
Klamath Tribes  
Yurok Tribe

**Counties**

Humboldt County, California  
Klamath County, Oregon  
Siskiyou County, California

**Parties Related to Klamath Reclamation Project**

Tulelake Irrigation District  
Klamath Irrigation District  
Klamath Drainage District  
Klamath Basin Improvement District  
Ady District Improvement Company  
Enterprise Irrigation District  
Malin Irrigation District

Midland District Improvement Company  
Pine Grove Irrigation District  
Pioneer District Improvement Company  
Poe Valley Improvement District  
Shasta View Irrigation District  
Sunnyside Irrigation District  
Don Johnston & Son  
Modoc Lumber Company  
Bradley S. Luscombe  
Randy Walthall and Inter-County Title Company  
Reames Golf and Country Club  
Winema Hunting Lodge, Inc.  
Van Brimmer Ditch Company  
Collins Products, LLC  
Plevna District Improvement Company  
Klamath Water Users Association  
Klamath Water and Power Agency

**Klamath Off-Project Water Users Association**

**Non-Governmental Organizations**

American Rivers  
California Trout  
Friends of the River  
Klamath Forest Alliance  
National Center for Conservation Science and Policy  
Northcoast Environmental Center  
Northern California/Nevada Council Federation of Fly Fishers  
Pacific Coast Federation of Fishermen’s Associations  
Salmon River Restoration Council  
Trout Unlimited.

<sup>10</sup> Federal agencies did not release the Proposed Agreement.

- A program intended to insure mitigation for counties that may be impacted by the removal of the hydroelectric facilities.

The Group is presently negotiating with PacifiCorp in an effort to reach a separate “Hydropower Agreement” that would include removal of the four lower Klamath River dams, as contemplated in the fifth Final EIS alternative. The Group sees dam removal as a necessary part of the overall effort to restore the Klamath River. As of June 2008, PacifiCorp had not signed onto either agreement, and FERC had not yet made a decision on the relicensing of the Klamath Project.

The alternatives analyzed in the Final EIS would result in varying degrees of benefit to the entire Klamath River fishery, including the Program Area. The No-Action Alternative would result in the continued impairment of water quality and the salmonid fishery. This would affect not only the mainstem Klamath and the areas above the dams, but the entire Klamath River watershed including the Program Area. The remaining alternatives represent, in general, progressively more effective means of addressing the existing water quality, flow, and migration barrier issues affecting the Klamath fishery with the likelihood that the greatest benefits would be realized through implementation of the last alternative, which would involve retirement and removal of the four dams.

It is premature at this time to determine which alternative will be selected by FERC. However, to be conservative in the cumulative impact analysis, it is assumed that the No-Action Alternative is implemented.

## **Fruit Growers Supply Company Multispecies Habitat Conservation Plan**

FGSC plans to submit applications to USFWS and NMFS for ITPs authorizing potential incidental take of federal endangered and threatened species during their otherwise lawful timber harvesting activities. FGSC intends to request coverage from NMFS for potential take of coho salmon and unlisted Chinook salmon (*O. tshawytscha*) and steelhead (*O. mykiss*). FGSC also intends to request coverage from USFWS for northern spotted owl, (*Strix occidentalis caurina*) and Yreka phlox (*Phlox hirsute*), although take of listed plant species is not prohibited under ESA. Take authorization for unlisted covered species would become effective upon listing. Pursuant to ESA section 10, FGSC’s ITP applications will include a multispecies HCP which will apply to approximately 154,000 acres of commercial timber land owned by FGSC in Siskiyou County. On February 22, 2008, USFWS and NMFS issued a Notice of Public Scoping and Intent to Prepare a Joint EIS (USFWS-NMFS, 2008) with comments due on or before April 7, 2008.

To comply with CESA, FGSC intends to request a Consistency Determination under Fish and Game Code, § 2080 (see Chapter 5, section 5.1.1 for information on Fish and Game Code, § 2080). FGSC also intends to request a master SAA from CDFG. CDFG has been a party to the discussions between FGSC, USFWS, and NMFS and the best management practices to protect federal and state listed species which will be incorporated into the HCP have been developed in cooperation with CDFG. CDFG intends to use the EIS as a CEQA equivalent document in accordance with Fish and Game Code, § 15221 in its consideration of the master SAA.

## Changes to the State Watermaster Program

DWR established the state-wide watermaster program in 1924 to provide for general public welfare and safety after many injuries and some deaths resulted from disputes over adjudicated water rights. The main purpose of the watermaster program is to ensure water is allocated according to established water rights as determined by court adjudications or agreements by an unbiased, qualified person, thereby reducing water rights-related litigation, civil lawsuits, and law enforcement workload. It also helps prevent the waste or unreasonable use of water (DWR, 2007).

Until recently, DWR charged the agricultural producers a total of \$85,000 per year to cover one half of the expenses associated with the program in Siskiyou County. A tax assessment was established for water users as the method for collecting payment for these charges. Watermaster charges have historically been assessed among individual water users using a formula of 10 percent based on per capita and 90 percent based on the total water right (Krum, 2007). In the past the state has covered the other half of the total program cost which, up to FY 2003/2004, was reported at \$170,000.

In 2003, the California Water Code was amended so that the General Fund no longer pays for half the cost of watermaster service. As a result, the entire cost will become the responsibility of the water users. In addition to this change, DWR has changed its cost allocation procedures, and subsequently DWR has proposed an increase of 2.5–3.5 times the existing watermaster service rate. The combination of the proposed rate increase and new payment structure could ultimately result in a five- to seven-fold cost increase for watermaster service in both the Shasta and the Scott watersheds.

For the past several years, the State Legislature and BOR have provided financial relief from these watermaster service cost increases. Most recently, the State Legislature reversed a decision to increase the tax assessment by 300–500 percent over the historic \$85,000 watermaster fee. However, this decision was not permanent and does not provide any legislative guarantees that fees will remain at the current rate. Any future cost increases would apply to all water users receiving watermaster services from DWR. Many landowners feel that increased watermastering costs, in addition to increasing costs associated with environmental regulatory compliance, could present a cumulative contribution to land use change.

The Save our Shasta and Scott Valleys Coalition worked with local legislators to achieve the passage of AB1580 (Chapter 416, Statutes of 2007) which creates a joint Scott Valley and Shasta Valley Watermaster District (District). This bill gives the District the power to act as watermaster over decreed water rights instead of DWR, and gives the District the power to adopt ordinances and regulations, acquire and dispose of property, appoint employees, enter contracts, and charge fees. In February 2008, the Siskiyou County Board of Supervisors appointed the initial Board of Directors for the District, consisting of seven members (henceforth five board directors will be elected and two appointed by the Board of Supervisors). The Board of Directors held its initial organizational meeting in February 2008. Efforts are currently underway to collect the requisite signatures from District members to be presented to the Siskiyou County Superior Court to request transfer of watermaster responsibilities in the Scott and Shasta Valleys from DWR to the

District (Krum, 2008). The minimum legal requirement for the Court to hold a hearing to initiate this change is approval by 15 percent of the “conduits” which in this case is synonymous with “diversions.” As of June 2008 the District had obtained signatures from approximately 40 percent of the conduit holders. The District is continuing to collect signatures and it is anticipated that at some time in the near future they will present their request to the Court. The District is capable of fulfilling the watermastering requirements of the three decrees in the Scott River watershed. This cumulative analysis conservatively assumes that individuals receiving watermaster service will be subject to an increase in cost for this service in the near future and that this could have implications for viability of agricultural operations.

## **Shasta River Watershed-Wide Permitting Program**

CDFG and the Shasta Valley Resource Conservation District (SVRCD) have developed a similar watershed-wide permitting program for the Shasta River watershed, also in Siskiyou County. On March 29, 2005, SVRCD submitted an application to CDFG for a watershed-wide incidental take permit (ITP) pursuant to Fish and Game Code, § 2081 (b) and (c). On April 22, 2005, SVRCD submitted a notification to CDFG pursuant to Fish and Game Code, § 1602. Thereafter, CDFG worked with SVRCD and Agricultural Operators to develop the Shasta River Watershed-wide Permitting Program (Shasta River Program) including the ITP (ITP No. 2081-2005-026-01) and MOU and MLTC. Together, the ITP, MOU and MLTC, and individual sub-permits and SAAs comprise the Shasta River Program. Similar to the Program for the Scott River, under the Shasta River Program SVRCD, DWR, and participating Agricultural Operators will conduct Covered Activities in accordance with the conditions in their SAAs to protect fish and wildlife resources, including coho salmon, and the avoidance, minimization, and mitigation measures specified in the ITP and sub-permits. During the first five years of the Program, the original term of any SAA CDFG issues under the Program will be five years. CDFG may extend the term one time for a period of up to five years if the SAA holder requests an extension prior to the SAA’s expiration. All SAAs issued or extended after the first five years of the Program will expire on the expiration date of the ITP (i.e., the expiration date of the Program). The term of the ITP will be 10 years and all sub-permits will be written to expire on the expiration date of the ITP. The Shasta River Program is currently undergoing CEQA review. The cumulative analysis conservatively assumes that the Program will be approved and that Covered Activities will be implemented according to the terms and conditions of the SAA MOU and MLTC and ITP throughout the entire Shasta River watershed.

## **4.2 Cumulative Impacts and Mitigation Measures**

Potential cumulative impacts of the Program on the resources described in Chapters 3.1 through 3.7 are described below. As explained in Section 4.1 above, the purpose of this analysis is to determine whether the impacts of the Program will be cumulatively considerable in combination with the potential impacts of past, present, and probable future government regulatory initiatives and similar past, present, and probable future activities similar to the activities the Program covers, including restoration activities, and their related impacts.

## 4.2.1 Land Use and Agriculture

The following analysis seeks to determine whether Impact 3.1.1 (“The Program could result in the conversion of agricultural land within the Scott River watershed to non-agricultural uses”) from Chapter 3.1, Land Use and Agriculture, which is found to be less than significant, could combine with impacts of other recent and related regulatory actions to cause a cumulatively considerable impact on land use, particularly whether these actions taken together would likely result in a conversion of agricultural land to non-agricultural uses.

Today, the resource-based economy of the Scott River watershed is primarily ranching and farming. Historically, however, gold mining, farming, ranching and logging were mainstays of the Scott Valley economy (Charnley et al., 2006). Mining diminished in the 1950s, with only small-scale operations continuing to occur near Scott Bar. In the 1970s, the downturn in the timber economy began and timber workers began leaving the local area (Charnley et al., 2006). Further declines in timber production on the KNF, in the years immediately preceding the NWFP, dramatically affected the community’s remaining timber workers. Most of the timber workers who still lived in the community chose to leave Siskiyou County with their families in the early 1990s. Then, between 1994 and 2002, two of the remaining timber mills closed. This caused a loss of 145 jobs for Scott Valley residents. During this period of time, manufacturing sector jobs diminished from 14 percent to 4 percent of total employment (Charnley et al., 2006). The timber workers that remained had difficulty finding steady employment, with private timberlands comprising only 18 percent of the watershed’s lands (USDA Forest Service Forest Inventory and Analysis data in Charnley et al., 2006).

Ranchers and farmers in the Scott Valley community, whose families have been ranching and cultivating crops for generations, have also experienced economic stress over the last decade and have a difficult time maintaining their way of life. The pressures have many sides: fluctuations in beef, alfalfa, and hay prices in the face of rising labor costs and rising production costs; drought; and the increased cost, responsibility, and liability associated with complying with new environmental regulations imposed to protect endangered species and improve water quality. These regulations have modified land management practices on federal lands (including grazing allotments) and resulted in greater restrictions on activities within the bed, banks, and channel of streams. Each of these regulations has its own set of requirements and costs.

As noted in Section 4.1.4., Agricultural Operators who divert water according to the French Creek (1958), Shackleford Creek (1950), and Scott River Decrees (1980) are expected to experience an increased economic burden related to an expected increase in watermaster service costs. Agricultural Operators under the French Creek and Shackleford Creek Decrees currently pay watermaster fees, while Agricultural Operators under the Scott River Decree who choose to participate in the Program will likely be paying costs for water use verification for the first time (with the exception of diverters on Wildcat Creek, Oro Fino Creek and Sniktaw Creek who are currently watermastered). Any water diverter under the Scott River Decree that currently does not receive watermaster services, but chooses to participate in the Program, will be required to participate in a verification process for the use of water in accordance with a valid right. Whether

this verification is done by the newly-formed district or in some other way, this would be a new cost for Agricultural Operators who do not currently receive watermaster service.

As identified in Impact 3.1-1, the cost to participate in the Program (including performing specific avoidance, minimization and mitigation measures) could potentially reduce net income for participating Agricultural Operators. Future net income reductions could possibly undermine the financial viability of some existing agricultural operations. The cumulative impact of environmental regulations, watermaster fees, and Program-related fees may cause landowners of properties with less viable agricultural operations to feel increased pressure to convert or sell their land. However, the cost and effort for those who choose to comply with Fish and Game Code, § 1600 *et seq.* and CESA outside the Program would likely be much greater than for Program participants. In some cases, this could result in conversion to non-agricultural uses, including attempts to subdivide agricultural land for rural residential or “ranchette” development.

The incremental impact on land use and agriculture from the Program, when combined with impacts from similar past, present, and probable future regulatory programs, will not be cumulatively considerable because the costs and effort associated with complying with these requirements individually, i.e., outside the Program, would likely be much greater than for Program participants; the net effect of the Program compared to existing conditions, is considered beneficial. The Program would therefore not contribute to loss of economic viability of farming and ranching enterprises, and so would not cumulatively contribute to pressures to convert prime farmland, unique farmland, or farmland of statewide importance to non-agricultural uses, and would not be expected to cause new conflicts with existing zoning for agricultural use or Williamson Act contracts.

### 4.2.2 Geomorphology, Hydrology, and Water Quality

Short-term impacts to water quality, stream channel configuration, and stream flow are identified as significant impacts in Chapter 3.2, Geomorphology, Hydrology, and Water Quality (Impacts 3.2-1 and 3.2-3). These impacts are related to construction activities in and around the bed, banks, and channel of streams, and operation and maintenance of instream structures. While Impacts 3.2-1 and 3.2-3 can be reduced to less than significant with the mitigation measures identified in this report, some residual, short-term impacts would remain. These would include short-term (i.e., during construction and during the first winter after construction) increases in turbidity and sedimentation, short-term alteration of flows, and alterations to the configuration of stream channels. Overall, these residual, short-term impacts would be considered less than significant. Chapter 3.2 also identifies two less than significant impacts on hydrology and water quality: Impacts 3.2.2 (certain instream structures proposed to increase fish habitat as part of the Program would be installed within a flood hazard area and could impede or redirect flood flows) and 3.2.4 (the Program could result in an increase in the extraction of groundwater, which in turn could contribute to decreased baseflows and increased ambient water temperatures in the Scott River and its tributaries).

As described above in this Chapter, there have been 130 projects completed near and in the Scott River, its tributaries, and other rivers and streams in the watershed over the past several years,

with more projects currently being implemented or planned. Like construction and maintenance activities associated with the Program, other projects that involve heavy equipment at instream, riparian, or nearby upland locations have the potential to cause short-term increases in erosion, sedimentation, and/ or pollutant loading (i.e., fuels and lubricants, due to spills and accidents) to surface waterways. As a consequence, there can be minor, temporary impacts to water quality, fishery resources, and vegetation. While these projects typically include similar measures to reduce impacts to water quality and streamflow (e.g., through SAA conditions), they, too, may have short-term, residual impacts. Similar to the Program, the impact of these activities is not likely to rise to a level of significance because the effects would not accumulate but rather would be site specific, short-term, and transitory in nature.

The incremental impacts on geomorphology, hydrology, and water quality from the activities the Program covers when combined with similar past, present, and probable future activities will not be cumulatively considerable because:

- Specified terms and conditions contained in SAAs for these activities typically mitigate their impacts to less-than-significant levels;
- Residual impacts after mitigation, if any, tend to be short-term, site-specific and transitory in nature;
- Many instream projects, including many of the Covered Activities, aim to improve water quality and to restore channel structure; short-term impacts are therefore often mitigated by long-term gains;
- The Program (with mitigation measures identified in this Draft EIR) would improve water quality and contribute to restoration of a more natural hydrograph and channel morphology and function in the streams of the Scott River watershed;
- Several other programs, particularly implementation of TMDLs in the watershed, the state and federal listing of coho salmon, the 5C Program, and the NWFP, also serve to protect and improve water quality and stream conditions. In sum, these programmatic and regulatory efforts, in combination with voluntary efforts on the part of individual landowners, the SQRCD, the SRWC, the French Creek WAG, and others, are having, and will continue to have, a cumulative beneficial impact on water quality and hydrology; and
- Mitigation measures specified for Impacts 3.2-1 and 3.2-3 would reduce these impacts to the point that they would not make a considerable contribution to combined impacts of other past, present, and probable future similar or closely related projects.

Based on the above, where activities similar to those covered by the Program will result in impacts to geomorphology, hydrology, and water quality, those caused by the Program when combined with those impacts will not be cumulatively considerable. As a result, no mitigation measures beyond those specified for Impacts 3.2-1 and 3.2-3 are required.

### 4.2.3 Biological Resources: Fisheries and Aquatic Habitat

Impact 3.3-1 in Chapter 3.3, Biological Resources: Fisheries and Aquatic Habitat, identifies a significant impact of the Program associated with direct and indirect effects of instream and near-stream construction activities on coho salmon and other fish species and their habitat. Impacts could result from such actions as ground clearing, channel and bank excavation, backfilling, earthmoving, stockpiling and/or compaction, grading, and concrete work. These activities could result in the following impacts to coho salmon and CDFG fish species of special concern, which are described more fully in Impact 3.3-1:

- Short-term increases in sedimentation and turbidity;
- Accidental spills and use of hazardous materials;
- Direct injury or mortality resulting from equipment use and dewatering activities; and/or
- Temporary loss, alteration, or reduction of habitat.

As noted in the discussion of Impact 3.3-1, these effects are expected to be reduced to less than significant by complying with the terms and conditions of the SAAs, the ITP, and sub-permits issued under the Program. Chapter 3.3 also identifies one less than significant impact, Impact 3.3-2 (increased extraction of groundwater could contribute to decreased baseflows and increased ambient water temperatures in the Scott River and its tributaries, thereby impacting coldwater fish habitat).

As described in Section 4.1.3 above, there have been 130 projects near or in the Scott River, its tributaries, and other rivers and streams in the watershed in recent years, and more are currently being implemented or planned. These have ranged from stream restoration projects, to emergency repair projects, to construction projects, among others. Most of these projects have the potential to cause impacts like those listed above that could adversely affect fish and aquatic habitat.

However, most of these projects will be subject to mitigation measures similar to those specified in the Program. Further, many of these projects are intended to improve habitat conditions for fish species, particularly coho salmon. These include terms and conditions in SAAs that place limits on season of construction, limits on equipment use, prohibitions against discharging wastes into the stream during construction, procedures to minimize damage from spills and upsets, and requirements for fish removal and exclusion and for erosion control.

The incremental impacts on fisheries and aquatic habitat from the activities in the Program covers when combined with similar past, present, and probable future activities will not be cumulatively considerable for the following reasons:

- Specified terms and conditions contained in SAAs and other permits required for projects of this kind usually mitigate impacts to less-than-significant levels;
- Residual impacts after mitigation tend to be short-term, site-specific, and transitory in nature;
- Many instream projects, including many of the Covered Activities, aim to improve fish habitat and passage, such that short-term impacts are mitigated by long-term gains in habitat quality and access;



- The Program (with mitigation measures identified in this Draft EIR) would reduce take of coho salmon in the Scott River watershed, and would improve habitat (including increased access to and from spawning and rearing areas) for coho salmon and other anadromous fish; and
- Several other regulatory programs, plans and policies, particularly implementation of TMDLs in the Watershed, the state and federal listing of coho salmon, and the implementation of the NWFP, also serve to protect and improve stream habitat and to benefit coho salmon and other anadromous fish. In sum, these regulatory efforts, in combination with voluntary efforts on the part of individual landowners, the SQRCD, the SRWC, the French Creek WAG, Siskiyou County DPW, and others, are having, and will continue to have, a cumulative beneficial impact on anadromous and other fish in the Scott River watershed.

Based on the above, where activities similar to those covered by the Program will result in impacts on fisheries and aquatic habitat, those caused by the Program when combined with those impacts will not be cumulatively considerable. As a result, no mitigation measures beyond those specified for Impacts 3.3-1 are required.

#### 4.2.4 Biological Resources: Botany, Wildlife and Wetlands

Overall, the Program will provide additional protections to riparian and wetland plant and animal species and habitats. Several other regulatory programs identified in this Chapter, in addition to individual actions of private landowners, the SQRCD, the SRWC, the French Creek WAG, and others, have increased protection for such resources, and have restored riparian and wetland areas. The overall impact of these new regulatory programs, combined with protection and restoration projects, is therefore beneficial for botany, wildlife, and wetland resources.

Impacts 3.4-1, 3.4-3, and 3.4-5 identify potentially significant impacts of Covered Activities on sensitive plant and animal species and habitats associated with construction activities and agricultural operations in and around streams and riparian areas. Impacts 3.4-2 and 3.4-4 identify additional impacts that are found to be less than significant. These impacts include effects such as the following:

- Direct mortality to special-status plant species from removal of individual special-status plant species or their seed banks;
- Special-status animals can be killed by vehicles and equipment, their burrows or other retreats may be crushed, or they may be killed if buried by new or maintained instream structures;
- Loss of downstream seasonal ponds due to flow modification; and/or
- Nest abandonment due to noise and human activity during construction periods; and

Although disturbances are temporary and intermittent, movement of livestock and vehicles can mobilize silt and small gravel, decreasing habitat quality for aquatic species, destabilize streambeds and banks, inhibit the growth or reduce the vigor of riparian or instream vegetation. Impacts 3.4-1, 3.4-3, and 3.4-5 can, however, be mitigated to less than significant with the

measures described in this Draft EIR. Projects and activities carried out under other programs identified in this Chapter could have impacts of a similar nature. Most of these projects and activities do, however, also include mitigation measures similar to those specified in the Program. These include terms and conditions in SAAs that place limits on season of construction, limits on equipment use, prohibitions against discharging wastes into the stream during construction, procedures to minimize damage from spills and upsets, and requirements for fish removal and exclusion and for erosion control.

The incremental impacts on botany, wildlife, and wetland resources from the activities the Program covers when combined with similar past, present, and probable future activities will not be cumulatively considerable for the following reasons:

- Specified terms and conditions contained in SAAs are intended to mitigate biological resource impacts to less-than-significant levels;
- Habitat quality for fish includes a more robust and complex vegetation assemblage in and adjacent to the Scott River, which in turn will support more riparian-dependent plants and animals; and
- Seasonal restrictions on equipment operations reduce direct effects on breeding birds and special-status species, if present. Pre-construction plant, and nesting bird surveys, and resulting activity restrictions will avoid impacts to these species.

Based on the above, where activities similar to those covered by the Program will result in impacts on botany, wildlife, and wetland resources, those caused by the Program when combined with those impacts will not be cumulatively considerable. As a result, no mitigation measures beyond those specified for Impacts 3.4-1, 3.4-3, and 3.4-5 are required.

## 4.2.5 Cultural Resources

Impacts 3.5-1, 3.5-2, and 3.5-3 in Chapter 3.5 identify potential impacts on cultural resources associated with construction and operation activities the Program covers; the first two are found to be significant, but can be mitigated; Impact 3.5-3 is found to be less than significant. The impacts are similar to potential impacts from similar past, present, and probable future projects. While both Covered Activities and similar projects could have potential impacts on known and unknown cultural resources, paleontological resources, and buried human remains, the standard mitigation measures specified for these impacts under the Program would mitigate them to less than significant.

The incremental impacts on cultural resources from the activities the Program covers when combined with similar past, present, and probable future activities will not be cumulatively considerable for the following reasons:

- The impacts of the Program are mitigated to less than significant, as described in Chapter 3.5;

- The impacts of related projects would also be mitigated to less than significant, assuming incorporation of similar mitigation measures, which are standard for projects of this kind; and
- Impacts of this nature are usually site-specific, and do not tend to combine in a cumulative sense with impacts at other sites.

The regulatory programs discussed in this Chapter, including TMDLs, the NWFP, and the state and federal listing of coho salmon, bring a broader range of activities under increased regulatory oversight. It is likely that, as a result of these programs, more cultural resources would be identified and preserved or properly recorded.

Based on the above, where activities similar to those covered by the Program will result in impacts on cultural resources, those caused by the Program when combined with those impacts will not be cumulatively considerable. As a result, no mitigation measures beyond those specified for Impacts 3.5-1 and 3.5-2 required.

## 4.2.6 Hazards and Hazardous Materials

Impacts 3.6-1 and 3.6-2 in Chapter 3.6, Hazards and Hazardous Materials, identify the accidental discovery of hazardous materials and the risk of causing wildfires (e.g., from sparks from heavy equipment operating in areas with dry vegetation on the edge of forest land) as potential Program impacts.

The incremental hazard- and hazardous materials-related impacts from the activities the Program covers when combined with similar past, present, and probable future activities will not be cumulatively considerable for the following reasons:

- Impacts of this nature tend to be site-specific and short-term, and do not tend to combine in a cumulative sense with impacts at other sites;
- The mitigation measures identified for Impacts 3.6-1 and 3.6-2 would mitigate these impacts to less than significant; and
- It is assumed that conditions placed on other related projects would similarly mitigate those impacts to less than significant, and to the degree that, when all cumulative activities are considered collectively, there would be no significant cumulative effect.

The regulatory programs described in this Chapter do not directly affect the regulation of hazardous materials. The NWFP does contain elements related to fuel management to reduce the risk of wildfire and damage caused by wildfire. Because the regulatory actions described in this Chapter bring a broader range of activities under increased regulatory oversight, including the necessity to incorporate basic safeguards into project planning and implementation, it is likely that risks associated with accidental discovery of unknown hazardous materials and the risk of wildfire will be reduced.

Based on the above, where activities similar to those covered by the Program will result in hazard- and hazardous materials-related impacts, those caused by the Program when combined

with those impacts will not be cumulatively considerable. As a result, no mitigation measures beyond those specified for Impacts 3.6-1 and 3.6-2 are required.

## 4.2.7 Public Utilities, Service Systems, and Energy

Impact 3.7-1 in Chapter 3.7, Public Utilities, Service Systems, and Energy (the Program could result in the modification or expansion of existing water supply systems) is found to be less than significant. Because such effects are local in nature, this less than significant impact is not expected to combine with impacts of other programs in a cumulatively considerable manner.

Impact 3.7-2 identifies the consequences of accidental contact with and damage to underground utilities and facilities during construction of projects covered under the Program as less than significant. Similar projects would have the potential for similar impacts.

The incremental impacts on public utilities, service systems, and energy from the activities the Program covers when combined with similar past, present, and probable future activities will not be cumulatively considerable for the following reasons:

- Effects of this kind are site-specific and do not combine with similar effects of related projects in a cumulative sense; and
- As discussed in Impact 3.7-2, Government Code, § 4216 requires notification of the Underground Service Administration between two and 14 days before any activity that could disturb underground utilities.

Impact 3.7-3 identifies a less than significant impact on energy consumption and air emissions related to increased use of pumps for water diversions. Other projects identified in this Chapter would not tend to increase energy consumption, so there is no potential for a cumulative impact on energy consumption. If FERC does not relicense the Klamath Hydroelectric Project, there will be a minor effect on energy supply in the region; however, it is anticipated that this effect can be compensated by existing power generation facilities and likely new generation, including natural-gas fired plants and renewable sources (FERC, 2007).<sup>11</sup>

Impact 3.7-4 identifies the contribution of the Program to global climate change due to emissions of greenhouse gases (GHG) as less than significant. This effect is in itself cumulative in nature, as all such emissions contribute to a build-up of these gases in the atmosphere. The combination of reduced carbon emissions and sequestration of carbon from the atmosphere is expected to outweigh new GHG emissions associated with Program activities, such that the overall effect of the Program on global climate change is expected to be beneficial. Implementation of Mitigation Measures 3.7-4a-b, either voluntarily or by another agency could further reduce GHG.

Based on the above, where activities similar to those covered by the Program will result in impacts on public utilities, service systems, and energy, those caused by the Program when

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<sup>11</sup> FERC (2007, Chapter 4) describes in detail the amount of power generation capacity that would be lost with decommissioning of the Klamath Hydroelectric Project dams, and also planned and potential new generation sources.

combined with those impacts will not be cumulatively considerable. As a result, no mitigation measures beyond those specified for Impacts 3.7-1 through 3.7-4 are required.

## 4.2.8 Other Issue Areas

Other issue areas normally considered in an EIR, such as Air Quality, Traffic and Transportation, Population and Housing, Mineral Resources, and Recreation, are not discussed in depth in this Draft EIR because CDFG determined in the Initial Study (see Appendix D) that the Program does not have the potential to cause a significant impact on these resources. Hence, even if other regulatory programs and activities similar to those covered by the Program were to have such impacts, where it was determined that the Program would have no impact, it would not contribute to them, or where it was determined that the Program's impacts would be less than significant, they would be so minor that when combined with the impacts of non-Program activities, they would not be cumulatively considerable.

## 4.3 Growth-Inducement

CEQA *Guidelines*, § 15126.2(d) requires that an EIR evaluate the growth-inducing impact of a proposed action. That section describes a growth-inducing impact as follows:

The ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a water treatment plant might, for example, allow for more construction in service areas) ... It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

The environmental effects of the growth a proposed project could induce are considered secondary, or indirect, impacts. Secondary effects of growth can result in significant increased demand on community and public service infrastructures, increased traffic, noise, degradation of air and water quality, and the conversion of agricultural and open space land to urbanized uses.

On the basis of the definition above, assessing the growth inducement potential of the Program rests on the following question: would approval and implementation of the Program directly or indirectly support more economic or population growth or residential construction? The Program does not cover activities that involve construction of new homes, businesses, roads or infrastructure. Therefore, it would not induce substantial population growth either directly or indirectly. With respect to employment, the Program would not provide for or result in substantial, long-term employment opportunities. Program participants would be required to comply with specified avoidance, minimization, and mitigation measures in their SAAs, the ITP, and sub-permits when conducting an activity the Program covers. However, most of those activities are related to existing, routine agricultural activities or restoration projects. Some of those projects might require additional workers, but the work would be temporary in nature. Adding temporary workers would not induce substantial population growth either directly or indirectly. Therefore, there would be no impact of this nature as a result of the Program.

## 4.4 Significant and Irreversible Environmental Changes

CEQA *Guidelines*, § 15126.2(c) states that impacts associated with a proposed project or program may be considered to be significant and irreversible if:

- The project would involve a commitment of non-renewable resources (such as fossil fuels).
- The primary and secondary impacts of a project would generally commit future generations to similar uses (such as a highway improvement that provides access to a previously inaccessible area).
- The project involves uses in which irreversible damage could result from potential environmental accidents associated with the project.

Activities implemented by Program participants would result in irretrievable and irreversible commitment of natural resources through direct consumption of fossil fuels during implementation of the Covered Activities and any related avoidance, minimization, and mitigation measures in the Program Area. However, such consumption would be minor, and therefore the irretrievable and irreversible commitment of natural resource it represents would not be significant.

Activities implemented by Program participants would not commit future generations to undesirable uses and would not involve a use from which irreversible damage could result. Although the activities the Program covers would in some case require the use of petroleum products and hazardous materials, it is unlikely that the amount used would result in an environmental accident or other damage so severe as to be irreversible. Also, as explained in Section 4.2.1 in this Chapter, the Program's incremental impacts in regard to land use conversion when combined with the potential impacts of similar activities would not be cumulatively considerable. Therefore, the Program would not cause a significant irreversible effect in regard to land use conversion.

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